PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION.

Improvements in Nut Locks.

I, ARTHUR CHARLTON, of 2, Lord Street, Keighley, in the County of York, Pipe Fitter, of British nationality, do hereby declare the nature of this invention to be as follows:—

It relates to nut locks and consists in so producing same that the gripping devices are squeezed between the threads of the bolt or screw upon which they are mounted without distorting or causing any malformation of said screw or thread, the gripping actions being effected by one part being actuated by another part so as to cause the operated part to firmly grip the peripheral surface of the bolt as desired.

In carrying my invention into effect I make the nut in two parts both parts of which are tapped or threaded in the usual and ordinary manner. One part has a recess formed in it to receive a cylindrical projection formed on the other part, so that when the one takes within the other the two parts of the nut have their axes in alignment. In the recessed part of the nut I mount a pivoted arm which has its inner face of curved formation so that the threads of the bolt upon which the nut is screwed will take into corresponding grooves in this curved arm.

Extending laterally from the curved arm is a pivotal pin formed integrally with the arm and made to take into an opening formed in the base of the recess in the nut and close to the thread of said nut, while said arm is further shaped so that slight lateral play is afforded for the purpose hereinafter described.

The other part of the nut has a cam-groove formed in the projection which extends from said part of the nut to take into the recess in the other part of the nut, and this cam groove is to receive the arm of the pivoted part hereinbefore described, so that when the two parts of the nut are placed one upon the other with the fassets (or other parts that receive the wrench) in proper alignment with each other the cam groove in the one permits the hinged piece in the other to occupy a position where the two may freely be rotated upon the screw or bolt.

On the position being reached where the nut is made to tightly grip the article that has to be held by it, the upper part of the nut is caused to rotate, say one sixth of a revolution, further or so much of a revolution as its cam surface will cause the hinged piece to move towards the centre of the bolt, thus pressing and squeezing the hinged part into the grooved threads of the bolt there to lock the devices firmly in position and that without in any way distorting or otherwise damaging the threads of either the bolt or the nuts or parts in connection therewith.

As means for securing the two parts of the nut together the projecting part on the one may be made to have a longer and a comparatively thin flange formed around its outer periphery to take into a correspondingly shaped groove formed in the other part of the nut under such conditions that when one is firmly forced into the other the extending flange taking within the groove and will secure the parts as desired.

Dated this 22nd day of July, 1920.

SAMUEL HEY,
Agent.

[*Price* 1/-]

COMPLETE SPECIFICATION.

Improvements in Nut Locks.

I, ARTHUR CHARLTON, of 2, Lord Street, Keighley, in the County of York, Pipe Fitter, of British nationality, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention relates to nut locks of the type or class in which the nut is divided into two parts between which two parts a wedging piece is mounted so that on the tightening up of the nut the supplementary part thereof may be rotated so that the wedging piece is forced thereby into contact with the threads of the bolt or the like to which the nut has to be locked. In the arrangement of these devices the additional part (which is actuated by eccentric or cam recesses within or upon one or other of the nut portions) has usually heretofore been formed so as to be loose or to have spring action by one end of same being rivetted or otherwise fixed upon one or other of the nut parts to enable it to yield to permit, the jamming actions at its other end. My invention consists in making use of similar jamming devices, which engage with the threads of the bolt so that by the cam action of one or other of the nuts these jamming devices which, according to my invention now act about pivotal supports and are of substantial dimensions so that when they are caused to wedge one portion with another these actions are effected by the jamming device oscillating about its pivotal supports.

In order that my said invention may be readily understood, I have hereunto appended a sheet of drawings illustrative thereof, in which:—

Fig. 1 is an elevation of a portion of a bolt with my nut-lock mounted thereon as when in position for being screwed to be tightened up.

Fig. 2 is a plan of the same parts in the positions shown by Fig. 1.

Fig. 3 is a similar view to Fig. 1 but illustrates the nut when locked in position.

Fig. 4 is a similar plan to Fig. 2 but illustrates the parts in the position shown by Fig. 3.

Fig. 5 is a sectional plan taken on line A—B of Fig. 1 with the parts in the position shown by said Fig. 1.

Fig. 6 is a sectional plan taken on the line C—D of Fig. 3 and shows the parts in their respective positions illustrated by said Fig. 3.

Fig. 7 is a sectional elevation of the nut in the position shown by Fig. 1.

Fig. 8 is a sectional elevation similar to Fig. 7, but shows the parts in position illustrated by Fig. 3.

Figs. 9, 10 and 11 are perspective views illustrating the three parts of my improved device in detail.

In carrying my invention into effect I make the nut in two parts 2 and 3 both parts of which are tapped or threaded in the usual and ordinary manner. The part 2 has a recess *a* formed in it to receive a cylindrical projection *b* formed on the other part so that when the one takes into the other the two parts of the nut have their axes in alignment. In the recessed part *a* of the nut 2 I mount a curved and pivoted arm 4 which has its inner surface *c* of curved formation so that the threads of the bolt 5 upon which the nut is screwed will take into the corresponding grooves formed in this face *c* of the curved arm 4.

Extending laterally from the curved arm 4 is a pivotal pin 6 formed integrally with the arm 4 and this pin 6 is made to take into an opening *d* formed in the base of the recess *a* of the nut 2 and close to the thread of said nut, while said arm 4 is further shaped so that slight lateral play is afforded for the purpose hereinafter described.

The nut 3 has a cam groove *g* formed in the projecting portion *d* and this cam groove *g* is to receive the arm 4 as is shown by Figs. 5, 6, 7 and 8 so that when the two parts 2 and 3 are placed upon one another with the facets *h* (or other parts that receive the wrench in proper alignment with each other as shown by Figs. 1, 2 and 5) the cam groove *b* in the one permits the hinged arm 4 in the other to occupy a position where the two may freely be rotated upon the screw or bolt 5 the threads in the two parts of the nut 2 and 3 and the threads in the part of the arm 4 being, when in the positions stated, in suitable relationship and positions for

permitting the ordinary advancing or receding of the three devices over the bolt 5.

When the compound nut 2 and 3 has been screwed up to the part that has to be finally gripped, under the conditions shown by said Figs. 1, 2 and 5, the upper part 3 is then caused to rotate say one sixth of a revolution (or from the position shown in Figs. 1, 2 and 5 into the positions shown by Figs. 3, 4, 6 and 8) or further or less than such a portion of a revolution as may be found necessary its cam surface *g* will be enabled to cause the hinged arm 4 to move towards the centre of the bolt 5 (see Fig. 6) thus said movement of the hinged arm 4 in said direction has the effect of causing said arm 4 to advance towards the centre of the nut somewhat as illustrated by Fig. 6, thus the screw threads on the surface *e* in the hinged part 4 will be pressed or squeezed into the grooves or threads of the bolt 5 there to lock the devices firmly in position and that without in any way distorting or otherwise damaging the threads of either the part 5 or the nuts 2 and 3 or parts in connection therewith.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

The employment of a curved gripping-piece hinged upon one portion of a nut so that it will act in conjunction with a cam groove in another portion of a nut in order that it (said curved gripping-piece) may have its volute ridges firmly pressed into the grooves of the bolt upon which the two portions of nuts have to take, substantially as herein specified.

Dated the 22nd day of April, 1921.

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10, Bradshawgate, Bolton, Lancs.

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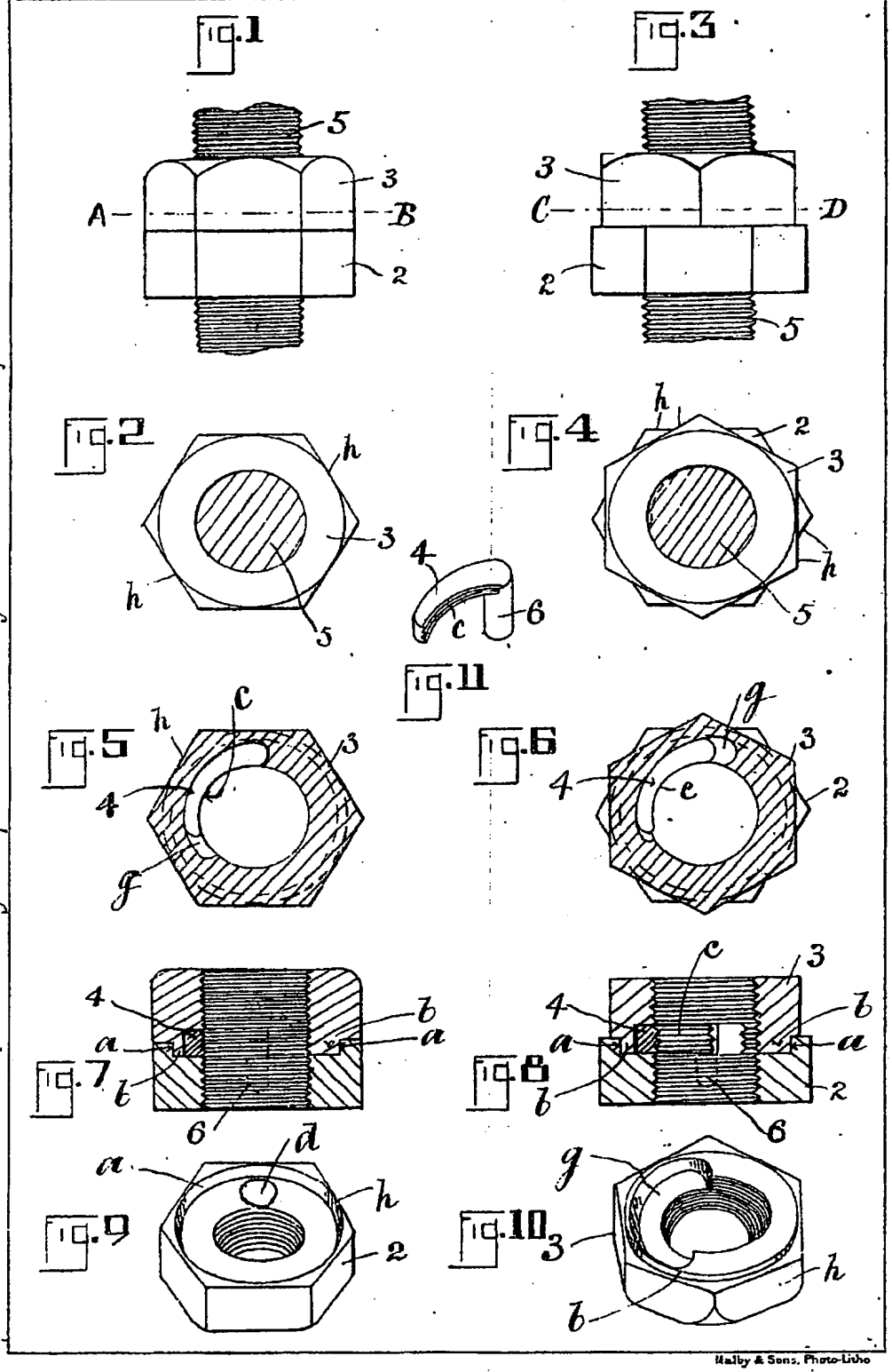

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